

60815pct.ST25  
SEQUENCE LISTING

<110> THERAPTOSIS S.A.

<120> METHOD FOR SCREENING MODULATORS OF MITOCHONDRIAL FUCTIONNING AND NEW  
MODULATORS OBTAINED

<130> 60815PCT

<140> PCT/EP03/12056

<141> 2003-10-02

<150> US 60/472,725

<151> 2003-05-23

<150> US 60/415/092

<151> 2002-10-02

<160> 57

<170> PatentIn version 3.1

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<211> 16

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<213> Artificial

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Ala Thr Leu Ser Ala Leu Leu Ala Ala Leu Arg Arg Ile Gln Arg Ala  
1 5 10 15

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<211> 27

<212> PRT

<213> Artificial

&lt;400&gt; 2

Arg Lys Lys Arg Arg Gln Arg Arg Arg Gly Gly Ala Thr Leu Ser Ala  
 1 5 10 15

Leu Leu Ala Ala Leu Arg Arg Ile Gln Arg Ala  
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&lt;211&gt; 40

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;400&gt; 3

Arg Lys Lys Arg Arg Gln Arg Arg Arg Cys Gly Gly Leu Glu Thr Arg  
 1 5 10 15

Thr Glu Thr Trp Met Ser Ser Glu Gly Ala Trp Lys Gln Ile Gln Lys  
 20 25 30

Val Glu Thr Trp Ala Leu Arg His  
 35 40

&lt;210&gt; 4

&lt;211&gt; 40

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;400&gt; 4

Arg Lys Lys Arg Arg Gln Arg Arg Arg Cys Gly Gly Leu Ala Asn Lys  
 1 5 10 15

Lys Gly Ala Trp Leu Asp Ser Thr Lys Ala Thr Arg Tyr Leu Val Lys  
 20 25 30

Thr Glu Ser Trp Ile Leu Arg Asn  
 35 40

&lt;210&gt; 5

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;220&gt;

&lt;221&gt; DISULFID

&lt;222&gt; (3)..(10)

&lt;223&gt;

&lt;400&gt; 5

Gly Gly Cys Arg Gly Asp Met Phe Gly Cys Gly Gly Leu Leu Phe Ile  
 1 5 10 15

His Phe Arg Ile Gly Ser Arg His Ser Arg Ile Gly  
 20 25

&lt;210&gt; 6

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;400&gt; 6

Arg Ile Glu Ile Trp Ile Leu Arg His  
 1 5

&lt;210&gt; 7

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;400&gt; 7

Arg Ile Ala Ile Trp Ile Leu Arg His  
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&lt;210&gt; 8

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;400&gt; 8

Arg Lys Lys Arg Arg Gln Arg Arg Arg Gly Gly Arg Ile Glu Ile Trp  
 1 5 10 15

Ile Leu Arg His  
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<210> 9

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Arg Lys Lys Arg Arg Gln Arg Arg Arg Gly Gly Arg Ile Ala Ile Trp  
1 5 10 15

Ile Leu Arg His  
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<212> PRT

<213> Artificial

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Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Leu Leu Phe Ile  
1 5 10 15

His Phe Arg Ile Gly Cys Arg His Ser Arg Ile Gly  
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<211> 31

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<400> 11

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Gly Ser Leu  
1 5 10 15

Leu Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg Ile Gly  
20 25 30

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&lt;213&gt; Artificial

&lt;400&gt; 12

Arg Lys Lys Arg Arg Gln Arg Arg Arg Gly Gly Gly Ala Trp Lys His  
 1 5 10 15

Ala Gln Arg Ile Glu Ile Trp Ile Leu Arg His  
 20 25

&lt;210&gt; 13

&lt;211&gt; 27

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;400&gt; 13

Arg Lys Lys Arg Arg Gln Arg Arg Arg Gly Gly Gly Ala Trp Lys His  
 1 5 10 15

Ala Gln Arg Ile Glu Thr Trp Ile Leu Arg His  
 20 25

&lt;210&gt; 14

&lt;211&gt; 27

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;400&gt; 14

Arg Lys Lys Arg Arg Gln Arg Arg Arg Gly Gly Gly Ala Trp Lys His  
 1 5 10 15

Ala Gln Arg Val Glu Ser Trp Ile Leu Arg Asn  
 20 25

&lt;210&gt; 15

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&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;400&gt; 15

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Arg Lys Lys Arg Arg Gln Arg Arg Arg Gly Gly Gly Ala Trp Lys Arg  
1 5 10 15

Ala Cys Arg Met Glu Thr Trp Ile Leu Arg His  
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Arg Lys Lys Arg Arg Gln Arg Arg Arg Gly Gly Gly Ala Trp Lys Gln  
1 5 10 15

Ile Gln Lys Val Glu Thr Trp Ala Leu Arg His  
20 25

<210> 17

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<213> Artificial

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Arg Lys Lys Arg Arg Gln Arg Arg Arg Gly Gly Gly Ala Trp Arg Gln  
1 5 10 15

Val Glu Lys Val Glu Thr Trp Ala Leu Arg His  
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<213> Artificial

<400> 18

Arg Lys Lys Arg Arg Gln Arg Arg Arg Gly Gly Gly Ala Trp Lys His  
1 5 10 15

Ala Gln Arg Ile Ala Ile Trp Ile Leu Arg His  
20 25

&lt;210&gt; 19

&lt;211&gt; 15

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;400&gt; 19

Ala Trp Lys His Ala Gln Arg Ile Ala Ile Trp Ile Leu Arg His  
 1 5 10 15

&lt;210&gt; 20

&lt;211&gt; 21

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;220&gt;

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&lt;222&gt; (3)..(10)

&lt;223&gt;

&lt;400&gt; 20

Gly Gly Cys Arg Gly Asp Met Phe Gly Cys Gly Gly Arg Ile Glu Ile  
 1 5 10 15

Trp Ile Leu Arg His  
 20

&lt;210&gt; 21

&lt;211&gt; 21

&lt;212&gt; PRT

&lt;213&gt; Artificial

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&lt;221&gt; DISULFID

&lt;222&gt; (3)..(10)

&lt;223&gt;

&lt;400&gt; 21

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Gly Gly Cys Arg Gly Asp Met Phe Gly Cys Gly Gly Arg Ile Ala Ile  
1 5 10 15

Trp Ile Leu Arg His  
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<222> (3)..(11)

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<400> 22

Gly Gly Cys Gly Arg Gly Asp Ser Pro Gly Cys Gly Gly Arg Ile Glu  
1 5 10 15

Ile Trp Ile Leu Arg His  
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<210> 23

<211> 22

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<222> (3)..(11)

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<400> 23

Gly Gly Cys Gly Arg Gly Asp Ser Pro Gly Cys Gly Gly Arg Ile Ala  
1 5 10 15

Ile Trp Ile Leu Arg His  
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<400> 24

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Arg Ile Glu Ile  
 1 5 10 15

Trp Ile Leu Arg His  
 20

<210> 25  
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<400> 25

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Arg Ile Ala Ile  
 1 5 10 15

Trp Ile Leu Arg His  
 20

<210> 26  
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 <213> Artificial

<400> 26

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Gly Ser Arg  
 1 5 10 15

Ile Glu Ile Trp Ile Leu Arg His  
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<210> 27  
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 <213> Artificial

&lt;400&gt; 27

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Gly Ser Arg  
 1 5 10 15

Ile Ala Ile Trp Ile Leu Arg His  
 20

&lt;210&gt; 28

&lt;211&gt; 31

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;400&gt; 28

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Gly Ser Gly  
 1 5 10 15

Ala Trp Lys His Ala Gln Arg Ile Glu Ile Trp Ile Leu Arg His  
 20 25 30

&lt;210&gt; 29

&lt;211&gt; 31

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;400&gt; 29

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Gly Ser Gly  
 1 5 10 15

Ala Trp Lys His Ala Gln Arg Ile Ala Ile Trp Ile Leu Arg His  
 20 25 30

&lt;210&gt; 30

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;400&gt; 30

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Leu Leu Phe Ile  
 1 5 10 15

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His Phe Lys Ile Gly Cys Lys His Ser Lys Ile Gly  
20 25

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<400> 31

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Gly Ser Leu  
1 5 10 15

Leu Phe Ile His Phe Lys Ile Gly Cys Lys His Ser Lys Ile Gly  
20 25 30

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<213> Artificial

<400> 32

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Leu Leu Phe Ile  
1 5 10 15

His Phe Arg Ile Gly Ser Arg His Ser Arg Ile Gly  
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<211> 31

<212> PRT

<213> Artificial

<400> 33

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Gly Ser Leu  
1 5 10 15

Leu Phe Ile His Phe Arg Ile Gly Ser Arg His Ser Arg Ile Gly  
20 25 30

<210> 34

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&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;400&gt; 34

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Leu Leu Phe Ile  
 1 5 10 15

His Phe Lys Ile Gly Ser Lys His Ser Lys Ile Gly  
 20 25

&lt;210&gt; 35

&lt;211&gt; 31

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;400&gt; 35

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Gly Ser Leu  
 1 5 10 15

Leu Phe Ile His Phe Lys Ile Gly Ser Lys His Ser Lys Ile Gly  
 20 25 30

&lt;210&gt; 36

&lt;211&gt; 27

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;400&gt; 36

Arg Lys Lys Arg Arg Gln Arg Arg Arg Gly Gly Gly Ala Trp Lys His  
 1 5 10 15

Ala Gln Arg Ile Glu Ile Trp Ile Leu Arg His  
 20 25

&lt;210&gt; 37

&lt;211&gt; 27

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;400&gt; 37

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Arg Lys Lys Arg Arg Gln Arg Arg Arg Gly Gly Gly Ala Trp Lys His  
1 5 10 15

Ala Gln Arg Ile Glu Thr Trp Ile Leu Arg His  
20 25

<210> 38

<211> 27

<212> PRT

<213> Artificial

<400> 38

Arg Lys Lys Arg Arg Gln Arg Arg Arg Gly Gly Gly Ala Trp Lys His  
1 5 10 15

Ala Gln Arg Val Glu Ser Trp Ile Leu Arg Asn  
20 25

<210> 39

<211> 27

<212> PRT

<213> Artificial

<400> 39

Arg Lys Lys Arg Arg Gln Arg Arg Arg Gly Gly Gly Ala Trp Lys Arg  
1 5 10 15

Ala Cys Arg Met Glu Thr Trp Ile Leu Arg His  
20 25

<210> 40

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<212> PRT

<213> Artificial

<400> 40

Arg Lys Lys Arg Arg Gln Arg Arg Arg Gly Gly Gly Ala Trp Lys Gln  
1 5 10 15

Ile Gln Lys Val Glu Thr Trp Ala Leu Arg His  
20 25

&lt;210&gt; 41

&lt;211&gt; 27

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;400&gt; 41

Arg Lys Lys Arg Arg Gln Arg Arg Arg Gly Gly Gly Ala Trp Arg Gln  
 1 5 10 15

Val Glu Lys Val Glu Thr Trp Ala Leu Arg His  
 20 25

&lt;210&gt; 42

&lt;211&gt; 21

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;400&gt; 42

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Arg Ile Glu Ile  
 1 5 10 15

Trp Ile Leu Arg His  
 20

&lt;210&gt; 43

&lt;211&gt; 21

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;400&gt; 43

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Arg Ile Ala Ile  
 1 5 10 15

Trp Ile Leu Arg His  
 20

&lt;210&gt; 44

&lt;211&gt; 24

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;400&gt; 44

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Gly Ser Arg  
 1 5 10 15

Ile Glu Ile Trp Ile Leu Arg His  
 20

&lt;210&gt; 45

&lt;211&gt; 24

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;400&gt; 45

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Gly Ser Arg  
 1 5 10 15

Ile Ala Ile Trp Ile Leu Arg His  
 20

&lt;210&gt; 46

&lt;211&gt; 31

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;400&gt; 46

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Gly Ser Gly  
 1 5 10 15

Ala Trp Lys His Ala Gln Arg Ile Glu Ile Trp Ile Leu Arg His  
 20 25 30

&lt;210&gt; 47

&lt;211&gt; 31

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;400&gt; 47

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Gly Ser Gly  
 1 5 10 15

60815pct.ST25

Ala Trp Lys His Ala Gln Arg Ile Ala Ile Trp Ile Leu Arg His  
20 25 30

<210> 48

<211> 28

<212> PRT

<213> Artificial

<400> 48

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Leu Leu Phe Ile  
1 5 10 15

His Phe Lys Ile Gly Cys Lys His Ser Lys Ile Gly  
20 25

<210> 49

<211> 31

<212> PRT

<213> Artificial

<400> 49

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Gly Ser Leu  
1 5 10 15

Leu Phe Ile His Phe Lys Ile Gly Cys Lys His Ser Lys Ile Gly  
20 25 30

<210> 50

<211> 28

<212> PRT

<213> Artificial

<400> 50

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Leu Leu Phe Ile  
1 5 10 15

His Phe Arg Ile Gly Ser Arg His Ser Arg Ile Gly  
20 25

<210> 51

<211> 31



&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;400&gt; 51

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Gly Ser Leu  
 1 5 10 15

Leu Phe Ile His Phe Arg Ile Gly Ser Arg His Ser Arg Ile Gly  
 20 25 30

&lt;210&gt; 52

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;400&gt; 52

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Leu Leu Phe Ile  
 1 5 10 15

His Phe Lys Ile Gly Ser Lys His Ser Lys Ile Gly  
 20 25

&lt;210&gt; 53

&lt;211&gt; 31

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;400&gt; 53

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Gly Ser Leu  
 1 5 10 15

Leu Phe Ile His Phe Lys Ile Gly Ser Lys His Ser Lys Ile Gly  
 20 25 30

&lt;210&gt; 54

&lt;211&gt; 21

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;220&gt;

&lt;221&gt; DISULFID

&lt;222&gt; (3)..(10)

&lt;223&gt;

&lt;400&gt; 54

Gly Gly Cys Arg Gly Asp Met Phe Gly Cys Gly Gly Arg Ile Glu Ile  
 1 5 10 15

Trp Ile Leu Arg His  
 20

&lt;210&gt; 55

&lt;211&gt; 21

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;220&gt;

&lt;221&gt; DISULFID

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&lt;223&gt;

&lt;400&gt; 55

Gly Gly Cys Arg Gly Asp Met Phe Gly Cys Gly Gly Arg Ile Ala Ile  
 1 5 10 15

Trp Ile Leu Arg His  
 20

&lt;210&gt; 56

&lt;211&gt; 22

&lt;212&gt; PRT

&lt;213&gt; Artificial

&lt;220&gt;

&lt;221&gt; DISULFID

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&lt;223&gt;

<400> 56

Gly Gly Cys Gly Arg Gly Asp Ser Pro Gly Cys Gly Gly Arg Ile Glu  
 1 5 10 15

Ile Trp Ile Leu Arg His  
 20

<210> 57

<211> 22

<212> PRT

<213> Artificial

<220>

<221> DISULFID

<222> (3)..(11)

<223>

<400> 57

Gly Gly Cys Gly Arg Gly Asp Ser Pro Gly Cys Gly Gly Arg Ile Ala  
 1 5 10 15

Ile Trp Ile Leu Arg His  
 20